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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,505	08/27/2003	Yosuke Inomata	81872.0051	6972

26021 7590 09/19/2005  
HOGAN & HARTSON L.L.P.  
500 S. GRAND AVENUE  
SUITE 1900  
LOS ANGELES, CA 90071-2611

EXAMINER

OLSEN, ALLAN W

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,505

Applicant(s)

INOMATA ET AL.

Examiner

Allan Olsen

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-12, 16, 17, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date Aug. 27/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group II, claims 13-15, 18-20 and 22, in the reply filed on July 13, 2005 is acknowledged. Additionally, applicant's election of species is noted and the examiner concurs with applicant's listing of claims that read upon the elected species, namely, claims 13-15 and 18-20.

Claims 1-12, 16, 17 and 21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Claim 22 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

### ***Claim Objections***

Claim 20 is objected to because line 2 recites:

*"a substrate to be etched next is placed with a surface and a back surface of said plate being reversed"*.

This wording is confusing because there is no indication as to where the substrate is placed (e.g., in the chamber). This can be further aggravated should one read, *"a substrate...is placed with a surface"*, as though "with a surface" is a reference to the substrates surface rather than to the surface of the plate. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 13, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,171,732 issued to Hed.**

Hed teaches a reactive ion etching of a substrate wherein a shadow mask that is placed above the substrate would inherently be cleaned. See: column 7, lines 45-53; column 8, lines 20-30 and column 10, lines 3-10, 23-37.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 13-15, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,176,967 issued to Obszarny in view of admitted prior art.**

Obszarny teaches a process of wherein reactive ions are used, in conjunction with a shadow mask, to etch a silicon substrate (see column 3, lines 15-30). Obszarny teaches that the gap between the mask and the substrate being etched should be at least about 2 mm (see claim 3). The cleaning of the mask is considered inherent to Obszarny's method.

Obszarny does not teach placing the substrate on an RF electrode.

Applicant's specification states in the sentence bridging pages 3 and 4:

*"A substrate processing apparatus used in the reactive ion etching method is generally of a parallel plate counter-electrode type, wherein an RF voltage plate is provided on the side where the substrate is placed and the electrode on the other side and the internal sidewall are connected to ground."*

It would have been obvious to one skilled in the art to place the substrate upon an RF electrode because Obszarny teaches a reactive ion etching process and applicant admits that, during a reactive ion etching process, a substrate is generally placed on an RF electrode.

**Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obszarny and admitted prior art, as applied to claim 18 above, and further in view of US Patent 4,681,780 issued to Kamman.**

The combination of Obszarny and the admitted prior art does not teach turning the shadow mask over before treating the next substrate and thereby simultaneously etching the substrate and cleaning the deposits from the shadow mask that were generated while etching the previous substrate.

Art Unit: 1763

Kamman teaches processing a substrate through a shadow mask while deposits, generated during previous processing steps, are simultaneously cleaned from the shadow mask.

It would have been obvious to one skilled in the art to incorporate the cleaning method of Kamman into Obszarny's process because Kamman teaches this greatly improves the efficiency of the process.

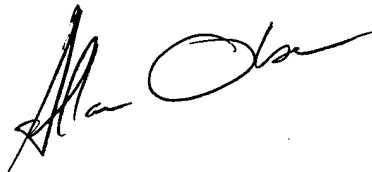
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 571-272-1441. The examiner can normally be reached on M-F 1-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Allan Olsen', is written over a horizontal line.

Allan Olsen  
Primary Examiner  
Art Unit 1763